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ABSTRACT

A turbine engine includes a fan that provides an air flow to the turbine engine as compressor intake air and as compressor bypass air, a first stage compressor positioned to receive the compressor intake air and output a first stage compressed air, and a boiler positioned to cool the first stage compressed air using a fluid. A second stage compressor is positioned to receive the cooled first stage compressed air. A pump is configured to pump the fluid as a liquid into the boiler, extract energy from the first stage compressed air, and cause the cooling of the first stage compressed air.

19 Claims, 3 Drawing Sheets

